

**Title** Skin damage to several mango cultivars during irradiation and cold storage

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#### **Abstract**

Mangoes can express several skin disorders following important postharvest treatments. Responses are often cultivar specific. We have been working with two new Australian mango cultivars that are susceptible to some of these treatments. 'Honey Gold' mango develops "under skin browning", thought to be partly caused by a discolouration of the latex vessels which can then spreads to the surrounding cells. The symptoms appear to be worse in fruit grown in hotter production areas and cooled to temperatures below 18°C soon after harvest. Current commercial recommendations are to cool fruit to 18°C, which limits postharvest handling options. Recent trials have confirmed that delayed or slowed cooling after harvest can reduce under skin browning. Also the defect may be associated with damage to the skin during and after harvest. Irradiation is an important disinfestation treatment against fruit fly in Australian mangoes. The 'B74' mango develops significant skin damage following irradiation, mainly because of discolouration of the cells surrounding the lenticels. Recent results confirmed that fruit harvested directly from the tree into trays without exposure to water or postharvest chemicals are not damaged by irradiation, while commercially harvested and packed fruit are damaged. Several major harvest and postharvest steps appear to increase lenticel sensitivity to irradiation. Further work is required to develop commercially acceptable protocols to facilitate 'Honey Gold' and 'B74' mango distribution and marketing.